(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 10 November 2005 (10.11.2005)

PCT

(10) International Publication Number WO 2005/106327 A1

(51) International Patent Classification⁷: F23G 5/00

(21) International Application Number:

PCT/KR2004/002136

(22) International Filing Date: 25 August 2004 (25.08.2004)

(25) Filing Language:

Korean

(26) Publication Language:

English

(30) Priority Data: 10-2004-0030090

29 April 2004 (29.04.2004) KR

(71) Applicant (for all designated States except US): AD-PLATECH CORPORATION [KR/KR]; 461-38, Jeonmin-Dong, Yuseong-Gu, Daejeon 305-811 (KR).

(72) Inventors; and

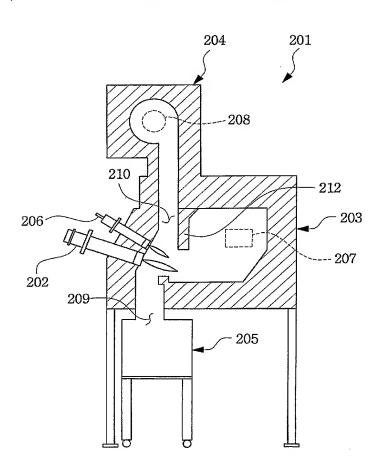
(75) Inventors/Applicants (for US only): HWANG, Soon Mo [KR/KR]; No.212-1603 Expo Apartment, Jeonmin-Dong,

Yuseong-Gu, Daejeon 305-761 (KR). KIM, Young Suk [KR/KR]; No.506-501 Expo Apartment, Junmin-Dong, Yuseong-Gu, Daejeon 305-762 (KR). **DOH, Cheal Jin** [KR/KR]; No.138-402 Hanbit Apartment, Eoeun-Dong, Yuseong-Gu, Daejeon 305-755 (KR).

- (74) Agents: YOON, Dong Yol et al.; 9th F1., Yosam Bldg., 648-23 Yoksam-Dong, Kangnam-Gu, Seoul 135-748 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: CYCLONIC PLASMA PYROLYSIS SYSTEM



(57) Abstract: The present invention relates to a cyclonic plasma pyrolysis/vitrification system pyrolyzing and vitrifying waste materials into exhaust gas and slag using a plasma torch. The plasma torch circulates the exhaust gas in a main reactor with a maximum circulating power by strong plasma jet, and makes flyashes contained in the circulating exhaust gas to be melted after being adsorbed at the inner walls or in the melted materials of waste at the bottom of the main reactor by a centrifugal force. Accordingly, discharge of flyashes containing toxic materials to the outside is prevented, and pyrolysis and gasification of the waste materials are induced by circulating the exhaust gas rapidly.

WO 2005/106327 A1

GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.